

### ***Remarks***

Claims 1-11, 20-30, 48, 50, and 51 are pending in the application. Claims 12-19, 31-47, and 49 have been canceled without prejudice as being drawn to a non-elected invention. The Applicants expressly reserve the right to prosecute the canceled claims in one or more divisional applications claiming the benefit of priority to the instant application and its predecessor(s). 35 USC § 121.

Claims 1, 3, 8, 11, 20, 22, 27, 30 and 48 have been amended. No new matter has been added. Support for the claim amendments and new claims can be found throughout the application.

Exemplary support for the re-addition to the definition of A of the group “-C(H)=” may be found on page 37, Formulas 5 and 6, wherein A is -C(H)= and V is N-R1.

Exemplary support for the amendment “V is (i) a chemical moiety comprising at least three Lewis basic moieties each independently selected from the group of Lewis basic moieties consisting of:” may be found generally on pages 33-36. See, in particular, page 33, last paragraph, page 34, second paragraph. Further, many of the compounds synthesized in the Examples support this amendment; see, e.g., Formula 31, Formula 48 and Formula 57.

Exemplary support for the amendment “wherein the at least three Lewis basic moieties are capable of forming a tridentate chelate” may be found at page 33, third paragraph, at pages 36-37 and at page 64, Example 9.

Exemplary support for the amendment “an imino group, wherein said imino group is capable of forming a bidentate chelate” may be found on page 33, third paragraph, page 34, second paragraph, page 35, last paragraph and page 36, first paragraph.

Importantly, the claim cancellations and amendments should not be construed to be an acquiescence to any of the claim rejections. Rather, the cancellations of and amendments to the claims are being made solely to expedite the prosecution of the above-identified application. The Applicants expressly reserve the right to further prosecute the same or similar claims in subsequent patent applications claiming the benefit of priority to the instant application. 35 USC § 120.

**Claim Rejections Based on 35 USC § 112¶1 - Lack of Written Description**

Claims 1-11, 20-30, 48, 50 and 51 were rejected under 35 USC § 112¶1, based on the Examiner's contention that various claim terms do not comply with the written description requirement. Further, the Examiner states that "although specific claims are referenced in the rejections set forth below, these rejections are also applicable to all other claims in which the noted problem/language occur."

The Examiner generally contends in Rejection 5a that the definition of "Z2" wherein "said phenyl moiety is optionally substituted with...moieties are optionally substituted" in claim 1 is not supported by the specification.

Specifically, the Examiner first contends in Rejection 5b that there is no written description in the specification to support the definition of "Z2" wherein "said phenyl moiety is optionally substituted with one or more E" wherein "E" is other than as defined in the "Z2" definitions at page 31 in the specification. Applicants respectfully disagree.

Please note that in claim 1, Applicants have used the variable E rather than K for this optional substitution of the phenyl ring of Z2 (also identified as the phenyl ring formed by carbons 3 to 8 of the structure depicted on page 30 of the application) to distinguish that optional substitution from the optional substitution with K of two other phenyl rings of the claimed fluorescein-based ligand (also identified as the phenyl rings formed in part by carbons 1' to 8' of the structure depicted on page 30 of the application). The application as originally filed contemplated independent substitution of these various phenyl rings, as indicated at, for example, page 32, fifth line from the bottom of the page, in referring to Formula 1B and 2B at the top of page 32 ("each K, independently, may be ..." (emphasis added)). Further, Z2 of the originally filed claim 1 specified examples of such substitution with E as now claimed, with for example "(2,4,5-tricarboxyphenyl)-C-" etc. Accordingly, the specification as filed supports the use of "E" rather than "K" for the variable indicating the optional substitution of the phenyl ring of Z2.

The Applicants point out that all of the members of the Markush group of variable E in claim 1 are sufficiently described by the definition of variable K described on pages 32 and 33 of

the application. Accordingly, there is ample support for the definition of “Z2” wherein “said phenyl moiety is optionally substituted with one or more E”, wherein “E” is other than as defined in the “Z2” definitions at page 31 in the specification. Applicants have done so to allow dependent claims to be made in which the substitution of those three phenyl rings vary.

*Applicants respectfully assert that the mere fact that overlapping subject matter was abbreviated with different capital letters in different sections of the application does not negative the sufficiency of the written description provided by the application.* Indeed, as MPEP 2163.02 provides, in relevant part, “The subject matter of the claim need not be described literally (i.e., using the same terms or in haec verba) in order for the disclosure to satisfy the description requirement.”

Further, the Examiner contends in Rejection 5c that there is no written description in the specification to support the “Z2” definition of claim 1 which recites “said hydrogen atoms of said -CH<sub>2</sub>- and -CH= moieties are optionally substituted.” Applicants respectfully disagree. Such substitutions are known to those of skill in the art and are generally taught by the application at the carry-over paragraph from page 22 to page 23. In particular, such variations are contemplated for the hydrogen atoms in the application at page 13, the third full paragraph, and page 14, the first full paragraph, which teaches that hydrogen atoms of alkyl and alkenyl groups like those in “HOOCCH<sub>2</sub>CH<sub>2</sub>C-” or HOOC-CH=CH-C-” may be substituted. Further, such variations for carbonyls in particular are described at page 17 of the application, second full paragraph.

The definition of “Z2” in claims 20 and 48 is identical to that of claim 1. Accordingly, Applicants’ arguments above are intended to apply to all such claims because the Examiner has stated that the rejections of claim 1 are applicable to all other claims in which the noted problem/language occurs.

Therefore, the Applicants respectfully request withdrawal of the rejections based on 35 USC § 112¶1 for lack of written description.

**Claim Rejections Based on 35 USC § 112¶1 - Lack of Enablement**

Claims 1, 5, 6, 20, 24, 25, 27-29 and 48 were rejected under 35 USC § 112¶1, based on the Examiner's contention that the claim(s) fail to comply with the enablement requirement. The Examiner states that "for the compounds of claim 1 wherein "A" contains a "-C(=S)" or "-C(=O)" moiety, it is not clear how all of such moieties would be prepared.

Applicants submit that the amendments to claims 1, 20 and 48 render the rejection moot. Further, even if certain compounds are contained within the Markush group as amended that would contain an unconventional linkage that might be difficult to synthesize, this should not render the claims non-enabled. The presence of inoperative embodiments within the scope of a claim does not necessarily render a claim nonenabled. The standard is whether a skilled person could determine which embodiments that were conceived, but not yet made, would be inoperative or operative with expenditure of no more effort than is normally required in the art. *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984). Applicants submit that one of skill in the art would be able to determine with no more effort than is normally required in the art which compounds would be difficult or impossible to synthesize.

Accordingly, the Applicants respectfully request withdrawal of the rejections based on 35 USC § 112¶1 for lack of enablement.

**Claim Rejections Based on 35 USC § 112¶2 - Indefiniteness**

Claims 1-11, 20-30, 48, 50 and 51 were rejected under 35 USC § 112¶2, based on the Examiner's contention that the claim(s) are indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. To better organize the Applicant's traverses of the Examiner's rejections under 35 USC § 112¶2, they are set forth below in paragraphs labeled according to the format used by the Examiner in the Office Action.

*Claim Rejection 7a.*

The Examiner contends that the definitions of the terminal group "V" of claim 1 inconsistently include definitions of groups which are not terminal groups and in which the

valency of “V” would be incorrect. Applicants submit that the amendments to the definition of “V” in claim 1 renders this rejection moot. Applicants’ argument is intended to apply to all such claims having this amendment, because the Examiner has stated that the rejections of claim 1 are applicable to all other claims in which the noted problem/language occurs.

*Claim Rejection 7b.*

The Examiner contends that the definitions of the terminal group “K” of claim 1 inconsistently include definitions of groups which are not terminal groups and in which the valency of “K” would be incorrect. The Examiner also contends that the definitions of the terminal group “E” of claim 1 inconsistently include definitions of groups which are not terminal groups and in which the valency of “E” would be incorrect. Applicants submit that the amendments to the definitions of “K” and “E” in all affected claims clarify that “K” and “E”, if present, may be any one or more of the listed moieties at any one of the available, substitutable aromatic ring carbon positions. The symbolic placement of “K” and “E” at no one position in the rings of the formulas in the claim indicates that “K” or “E”, if present, may be at one or more of the available positions in the ring. Please see pages 32-33 for a discussion of “K” and “E” and please see Figure 1-D for exemplary substituted compounds. Applicants further submit that carbonyl and sulfonyl (as defined in the specification at pages 17 and 19, respectively) substitutions of aromatic compounds are well-known in the art. However, Applicants have deleted the extra occurrence of “sulfonyl” in the definitions of “K” and “E” in the claims. Accordingly, Applicants urge that amended claim 1 and all claims having the same amendment are definite.

*Claim Rejection 7c.*

The Examiner contends that the compounds of dependent claim 11 are not encompassed by independent claim 1. Applicants submit that the amendments to the definition of “V” in claim 1 renders this rejection moot. Applicants’ argument is intended to apply to all such claims having this amendment, because the Examiner has stated that the rejections of claim 1 are applicable to all other claims in which the noted problem/language occurs. Thus, the compounds of claim 30 are encompassed by claim 20 as amended.

*Claim Rejection 7d.*

The Examiner contends that the compounds of dependent claims 50 and 51 are not encompassed by independent claim 1 and that there is no definition in claim 1 which corresponds to “A” defined as “CH=”. Applicants submit that the amendments to the definition of “V” in claim 1 renders this rejection moot.

*Claim Rejection 7e.*

The Examiner contends that it is unclear whether or not the claim 1 term “E is optionally one or more” requires that at least one substituent be present on the aromatic ring. Applicants submit that the amendments to the definition of “E” in claim 1 renders this rejection moot. Applicants’ argument is intended to apply to all such claims having this amendment, because the Examiner has stated that the rejections of claim 1 are applicable to all other claims in which the noted problem/language occurs.

*Claim Rejection 7f.*

The Examiner contends that it is unclear as to what is meant by the generic terms such as “amino”, “amido”, “alcohol”, “mercaptan”, etc. Applicants direct Examiner’s attention to pages 13 through 21, wherein various of the generic terms are expressly defined as more inclusive definitions. Applicants remind the Examiner that the pending claims must be given the broadest reasonable interpretation consistent with the specification. In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); In re Prater, 415 F.2d 1393, 162 USPQ 541 (CCPA 1969). See also MPEP § 2111 - 2111.01 Further, Applicants urge that the amendments made to claim 1 further make this clear. Applicants’ argument is intended to apply to all such claims having this amendment, because the Examiner has stated that the rejections of claim 1 are applicable to all other claims in which the noted problem/language occurs.

*Claim Rejection 7g.*

The Examiner contends that, for claims 50 and 51, the “A-V” definitions are not encompassed by the corresponding definition of claims 1 and 20. Applicants submit that the amendments to the definition of “V” in claims 1 and 20 renders this rejection moot.

Accordingly, the Applicants respectfully request withdrawal of all of the rejections based on 35 USC § 112¶2 for indefiniteness.

**Claim Rejections Based on 35 USC § 102**

The Examiner has rejected claims 1-10, 20-29 and 48 as being anticipated under 35 USC § 102(a) and/or (b) by various references, which are enumerated and discussed below.

In brief and without limitation, Applicants note that V in independent claims 1, 20 and 48 has been amended to comprise certain types of Lewis bases and further to require that the claimed V be capable of forming a tridentate or bidentate chelating agent. Applicants respectfully submit that none of the compounds identified in the outstanding Office Action anticipates nor renders obvious the amended claims. As indicated above, there is support in the description and originally filed claims for the claim amendments made.

In particular, with respect to the rejections specified by the Examiner in paragraph 9 of the Office Action:

- Shipchandler et al: Formulas 2b and 2c do not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.
- Kaplan et al: Formula II of Figure 1 does not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.
- Werts et al: Formulas 3 and 4 of Scheme 1 do not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.
- AKSO NOBEL: The formulas on page 15, lines 9-10, do not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- Flechtner et al: The first formula of column 13 does not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- Jackson: the first structure of column 25 does not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- ABBOT (EP 297,303): The description at page 4, lines 1 to 31, does not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- Kirkemo et al: The formula at column 3, lines 20-39, does not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- ABBOT (EP 201,751): Applicants respectively note that the Examiner's reference to "col. 4, lines 7-14" for this reference was unclear to Applicants, because the copy of the reference provided with the Office Action has pages, not columns. Nonetheless, Applicants have reviewed this reference, and none of Examples I to VI indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.

- Ghosal et al: The formulas 2 and 3 of Figure 1 do not indicate or suggest a compound wherein V comprises at three Lewis basic moieties that are capable of forming a tridentate chelate and wherein at least one of the Lewis basic moieties is heterocyclyl or wherein V comprises an imino group capable of forming a bidentate chelate.



Accordingly, the Applicants respectfully request withdrawal of all of the rejections based on 35 USC § 102.

### Conclusion

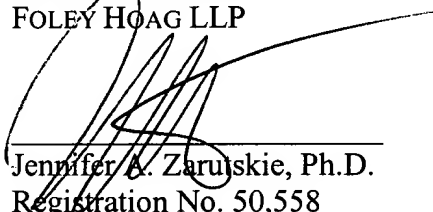
In view of the above amendments and remarks, it is believed that the pending claims are in condition for allowance. Therefore, the Applicants respectfully request reconsideration and withdrawal of the pending rejections. If a telephone conversation with Applicants' Attorney would expedite prosecution of the above-identified application, the Examiner is urged to contact the undersigned.

Patent Group  
FOLEY HOAG LLP  
155 Seaport Boulevard  
Boston, MA 02210

(617) 832-1000  
(617) 832-7000 (FAX)

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Respectfully submitted,  
FOLEY HOAG LLP



Jennifer A. Zaruskie, Ph.D.  
Registration No. 50,558  
Attorney for Applicants